

CLAIMS

What is claimed is:

1. 1. A method comprising:
 2. receiving a request to send an email;
 3. determining whether the email to be sent includes one or more attachments;
 4. determining whether a recipient of the email has distributed storage separate from an incoming email server of the recipient for storing email attachments, if the email to be sent includes one or more attachments;
 7. determining a network address of the recipient's distributed storage for storing email attachments, if the recipient has such distributed storage;
 9. determining whether the recipient's distributed storage is available to receive the one or more attachments upon determining the network address; and
 11. servicing said request to send said email based at least in part on the results of said determinations.
1. 2. The method of claim 1, wherein said determining of whether the recipient of the email has distributed storage separate from an incoming email server of the recipient for storing email attachments comprises querying a recipient email distributed storage location server.
1. 3. The method of claim 1, wherein said determining of the network address of the recipient's distributed storage for storing email attachments comprises querying a recipient email distributed storage location server.

1 4. The method of claim 1, wherein said determining of whether the recipient's
2 distributed storage is available to receive the one or more attachments comprises
3 pinging the recipient's email distributed storage using said determined network
4 address.

1 5. The method of claim 1, wherein said determination results based servicing
2 comprises sending a main body of the email to the incoming email server of the
3 recipient, and sending the one or more attachments of the email to the recipient's
4 distributed storage for storing email attachments, if the recipient has distributed
5 storage for storing email attachments, and the distributed storage is available to
6 accept said one or more attachments.

1 6. The method of claim 1, wherein said determination results based servicing
2 comprises sending a main body of the email to the incoming email server of the
3 recipient, and sending an instruction to the recipient's distributed storage to submit a
4 request for the one or more attachments of the email, if the recipient has distributed
5 storage for storing email attachments, and the distributed storage is available to
6 accept said one or more attachments.

1 7. The method of claim 6, wherein the method further comprises sending the
2 one or more attachments of the email to the recipient's distributed storage for email
3 attachments upon receipt of a request from the recipient's distributed storage for the
4 one or more attachments of the email.

1 8. The method of claim 1, wherein said determination results based servicing
2 comprises sending a main body of the email to the incoming email server of the

3 recipient, and retrying to send the one or more attachments of the email to the
4 recipient's distributed storage in accordance with a retry policy, if the recipient has
5 distributed storage and the distributed storage is not immediately available to accept
6 said one or more attachments.

1 9. The method of claim 1, wherein said determination results based servicing
2 comprises sending a main body of the email and the one or more attachments of
3 the email to the incoming email server of the recipient if the recipient has distributed
4 storage and the distributed storage is not available to accept said one or more
5 attachments.

1 10. The method of claim 1, wherein said determination results based servicing
2 comprises sending a main body of the email and the one or more attachments of
3 the email to the incoming email server of the recipient if the recipient does not have
4 distributed storage for email attachments.

1 11. The method of claim 1, wherein said method further comprises repeating said
2 determining and determination results based servicing operations for each recipient
3 of the email.

1 12. The method of claim 11, wherein said method further comprises determining
2 recipients of the email, including determining members of a recipient group.

1 13. A method comprising:
2 receiving an email on behalf of a recipient, the email including a main body
3 and one or more attachments;

4 determining whether the recipient of the email has distributed storage for
5 storing email attachments;
6 determining a network address of the recipient's distributed storage for
7 storing email attachments, if the recipient has such distributed storage;
8 determining periodically whether the recipient's distributed storage is
9 available to receive the one or more attachments upon determining the network
10 address; and
11 sending the one or more attachments of the email to the recipient's
12 distributed storage for email attachments for storage, upon determining that the
13 recipient's distributed storage for email attachments is available to accept email
14 attachments.

1 14. The method of claim 13, wherein said determining of whether the recipient of
2 the email has distributed storage for storing email attachments comprises querying a
3 recipient email distributed storage location server.

1 15. The method of claim 13, wherein said determining of the network address of
2 the recipient's distributed storage for storing email attachments comprises querying
3 a recipient email distributed storage location server.

1 16. The method of claim 13, wherein said determining of whether the recipient's
2 distributed storage is available to receive the one or more attachments comprises
3 pinging the recipient's email distributed storage using said determined network
4 address.

1 17. The method of claim 13, wherein said sending of the one or more
2 attachments of the email to the recipient's distributed storage for email attachments
3 comprises sending an instruction to the recipient's distributed storage to submit a
4 request for the one or more attachments of the email.

1 18. The method of claim 17, wherein the method further comprises sending the
2 one or more attachments of the email to the recipient's distributed storage for email
3 attachments upon receipt of a request from the recipient's distributed storage for the
4 one or more attachments of the email.

1 19. A method comprising:
2 receiving a registration to register an email user's distributed storage for email
3 attachments;
4 storing a network address of the email user's distributed storage for email
5 attachments;
6 receiving a request from a requestor for the network address of the email
7 user's distributed storage for email attachments; and
8 providing the requestor with the network address of the email user's
9 distributed storage for email attachments.

1 20. The method of claim 19, wherein the requestor is a selected one of a sender
2 of an email and an incoming email server of a recipient of an email.

1 21. A method comprising:
2 receiving a request from a selected one of a sender and an incoming email
3 server of a user to pull an attachment of an email;

4 in response, submitting a request to the selected one of the sender and the
5 incoming email server of the user to pull said email attachment;
6 receiving said email attachment; and
7 storing said email attachment.

1 22. The method of claim 21, wherein the method further comprises
2 receiving a request from a requestor for the email attachment;
3 retrieving the email attachment from storage; and
4 providing the retrieved email attachment to the requestor upon successfully
5 retrieving said email attachment from storage.

1 23. A method comprising:
2 receiving a request from a user to access an attachment of an email;
3 determining whether a distributed storage for storing email attachments for
4 the user is accessible;
5 determining whether the attachment is stored in said distributed storage if
6 said distributed storage is accessible; and
7 servicing said request to access said attachment of said email based at least
8 in part on the result of said determination.

1 24. The method of claim 23, wherein said determining of whether the user's
2 distributed storage for email attachments is accessible comprises pinging the user's
3 distributed storage for email attachments.

1 25. The method of claim 23, wherein said determination results based servicing
2 comprises retrieving the attachment from the user's distributed storage for storing

3 email attachments if the user's distributed storage for storing email attachments is
4 accessible, and the attachment is stored in the user's distributed storage for storing
5 email attachments.

1 26. The method of claim 23, wherein said determination results based servicing
2 comprises retrieving the attachment from an incoming email server of the user if the
3 user's distributed storage for storing email attachments is accessible, and the
4 attachment is not stored in the user's distributed storage for storing email
5 attachments.

1 27. The method of claim 23, wherein said determination results based servicing
2 comprises attempting to retrieve the attachment from an incoming email server of
3 the user if the user's distributed storage for storing email attachments is not
4 accessible.

1 28. An apparatus comprising:
2 storage medium having stored therein a plurality of programming instructions
3 designed to enable said apparatus to
4 receive a request to send an email,
5 determine whether the email to be sent includes one or more
6 attachments,
7 determine whether a recipient of the email has distributed storage
8 separate from an incoming email server of the recipient for storing
9 email attachments, if the email to be sent includes one or more
10 attachments,

11 determine a network address of the recipient's distributed storage for
12 storing email attachments, if the recipient has such distributed storage,
13 determine whether the recipient's distributed storage is available to
14 receive the one or more attachments upon determining the network
15 address, and
16 service said request to send said email based at least in part on the
17 results of said determinations; and
18 a processor coupled to the storage medium to execute the programming
19 instructions.

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1 29. The apparatus of claim 28, wherein said programming instructions are
2 designed to enable the apparatus to send the one or more attachments of the email
3 to the recipient's distributed storage, if the recipient has distributed storage for
4 storing email attachments, and the distributed storage is available to accept said
5 one or more attachments.

1 30. The apparatus of claim 28, wherein said programming instructions are
2 designed to enable the apparatus to send an instruction to the recipient's distributed
3 storage to submit a request for the one or more attachments of the email, if the
4 recipient has distributed storage for storing email attachments, and the distributed
5 storage is available to accept said one or more attachments.

1 31. The apparatus of claim 30, wherein said programming instructions are further
2 designed to enable the apparatus to send the one or more attachments of the email
3 to the recipient's distributed storage for email attachments upon receipt of a request
4 from the recipient's distributed storage for the one or more attachments of the email.

1 32. The apparatus of claim 28, wherein said programming instructions are
2 designed to enable the apparatus to retry to send the one or more attachments of
3 the email to the recipient's distributed storage in accordance with a retry policy, if the
4 recipient has distributed storage and the distributed storage is not immediately
5 available to accept said one or more attachments.

1 33. The apparatus of claim 28, wherein said programming instructions are
2 designed to enable the apparatus to send the one or more attachments of the email
3 to the incoming email server of the recipient if the recipient has distributed storage
4 and the distributed storage is not available to accept said one or more attachments.

1 34. The apparatus of claim 28, wherein said programming instructions are
2 designed to enable the apparatus to send the one or more attachments of the email
3 to the incoming email server of the recipient if the recipient does not have distributed
4 storage for email attachments.

1 35. An apparatus comprising:
2 storage medium having stored therein a plurality of programming instructions
3 designed to enable said apparatus to
4 receive an email on behalf of a recipient, the email including a main body
5 and one or more attachments,
6 determine whether the recipient of the email has distributed storage for
7 storing email attachments,
8 determine a network address of the recipient's distributed storage for
9 storing email attachments, if the recipient has such distributed storage,

10 determine periodically whether the recipient's distributed storage is
11 available to receive the one or more attachments upon determining the
12 network address, and
13 send the one or more attachments of the email to the recipient's
14 distributed storage for email attachments for storage, upon
15 determining that the recipient's distributed storage for email
16 attachments is available to accept email attachments; and
17 a processor coupled to the storage medium to execute the programming
18 instructions.

1 36. The apparatus of claim 35, wherein said programming instructions are
2 designed to enable the apparatus to send an instruction to the recipient's distributed
3 storage for email attachments, instructing the recipient's distributed storage for email
4 attachments to submit a request for the one or more attachments of the email.

1 37. The apparatus of claim 36, wherein said programming instructions are further
2 designed to enable the apparatus to send the one or more attachments of the email
3 to the recipient's distributed storage for email attachments upon receipt of a request
4 from the recipient's distributed storage for the one or more attachments of the email.

1 38. An apparatus comprising:
2 storage medium having stored therein a plurality of programming instructions
3 designed to enable said apparatus to
4 receive a registration to register an email user's distributed storage for
5 email attachments,

6 store a network address of the email user's distributed storage for email
7 attachments,
8 receive a request from a requestor for the network address of the email
9 user's distributed storage for email attachments, and
10 provide the requestor with the network address of the email user's
11 distributed storage for email attachments; and
12 a processor coupled to the storage medium to execute the programming
13 instructions.

1 39. An apparatus comprising:
2 storage medium having stored therein a plurality of programming instructions
3 designed to enable said apparatus to
4 receive a request from a selected one of a sender and an incoming email
5 server of a user to pull an attachment of an email,
6 submit, in response, a request to the selected one of the sender and the
7 incoming email server of the user to pull said email attachment,
8 receive said email attachment, and
9 store said email attachment; and
10 a processor coupled to the storage medium to execute the programming
11 instructions.

1 40. The apparatus of claim 39, wherein the programming instructions further
2 enable the apparatus to
3 receive a request from a requestor for the email attachment;
4 retrieve the email attachment from storage; and

5 provide the retrieved email attachment to the requestor upon successfully
6 retrieving said email attachment from storage.

1 41. An apparatus comprising:

2 storage medium having stored therein a plurality of programming instructions
3 designed to enable said apparatus to
4 receive a request from a user to access an attachment of an email,
5 determine whether a distributed storage for storing email attachments for
6 the user is accessible,
7 determine whether the attachment is stored in said distributed storage if
8 said distributed storage is accessible, and
9 service said request to access said attachment of said email based at
10 least in part on the result of said determination; and
11 a processor coupled to the storage medium to execute the programming
12 instructions.

1 42. The apparatus of claim 41, wherein the programming instructions enable the
2 apparatus to perform said determining of whether the user's distributed storage for
3 email attachments is accessible by pinging the user's distributed storage for email
4 attachments.

1 43. The apparatus of claim 41, wherein the programming instructions enable the
2 apparatus to perform said determination results based servicing by retrieving the
3 attachment from the user's distributed storage for storing email attachments if the
4 user's distributed storage for storing email attachments is accessible, and the
5 attachment is stored in the user's distributed storage for storing email attachments.

1 44. The apparatus of claim 41, wherein the programming instructions enable the
2 apparatus to perform said determination results based servicing by retrieving the
3 attachment from an incoming email server of the user if the user's distributed
4 storage for storing email attachments is accessible, and the attachment is not stored
5 in the user's distributed storage for storing email attachments.

1 45. The apparatus of claim 41, wherein the programming instructions enable the
2 apparatus to perform said determination results based servicing by attempting to
3 retrieve the attachment from an incoming email server of the user if the user's
4 distributed storage for storing email attachments is not accessible.

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